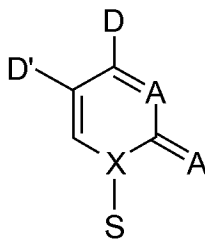


**Amendments to the Claims:**

This claim listing will replace all prior versions and listings of claims in the application:

**Claim Listing:**

- 1-19. (Cancelled)
20. (Previously presented) An immunostimulatory oligonucleotide compound, comprising:  
an immunostimulatory dinucleotide of formula C\*pG, C\*pG\* or CpG\*, wherein C is a natural pyrimidine nucleoside, C\* is a non-natural pyrimidine nucleoside, G is a natural purine nucleoside and G\* is a non-natural purine nucleoside, and wherein p is an internucleotide linkage selected from the group consisting of phosphodiester, phosphorothioate and phosphorodithioate;  
  
a 3'-3' linkage; and  
  
one or two accessible 5' ends.
21. (Original) The immunostimulatory oligonucleotide compound of claim 20, which oligonucleotide comprises two accessible 5' ends.
- 22.-40. (Canceled)
41. (Previously presented) The immunostimulatory oligonucleotide compound of claim 20, wherein G\* is 7-deazaguanosine.
42. (Currently amended) An immunostimulatory oligonucleotide compound, comprising: an immunostimulatory dinucleotide of formula ~~CpG or C\*pG~~, wherein ~~C is a natural pyrimidine nucleoside~~, C\* is a non-natural pyrimidine nucleoside having formula (I):



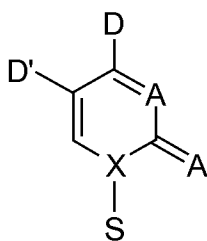
wherein D is a hydrogen bond donor, D' is selected from the group consisting of hydrogen, hydrogen bond donor, hydrophilic group, hydrophobic group and electron donating group, A is a hydrogen bond acceptor or a hydrophilic group, X is carbon or nitrogen, and S is a pentose or hexose sugar ring, provided that the pyrimidine nucleoside of formula (I) is not cytidine or deoxycytidine, and G is a natural purine nucleoside, and wherein p is an internucleotide linkage selected from the group consisting of phosphodiester, phosphorothioate and phosphorodithioate;

a 3'-3' linkage; and

one or two accessible 5' ends.

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43. (Previously presented) The immunostimulatory oligonucleotide compound of claim 20, wherein the non-natural pyrimidine nucleoside has the formula (I):



(I)

wherein D is a hydrogen bond donor, D' is selected from the group consisting of hydrogen, hydrogen bond donor, hydrogen bond acceptor, hydrophilic group, hydrophobic group, electron withdrawing group and electron donating group, A is a hydrogen bond acceptor or a hydrophilic group, X is carbon or nitrogen, and S is a pentose or hexose sugar ring, provided that the pyrimidine nucleoside of formula (I) is not cytidine or deoxycytidine.

44. (Previously presented) The immunostimulatory oligonucleotide compound of claim 43, wherein the non-natural pyrimidine nucleoside includes a non-naturally occurring pyrimidine base.
45. (Currently amended) The immunostimulatory oligonucleotide compound of claim ~~44~~, wherein the non-naturally occurring pyrimidine base is selected from the group consisting of 5-hydroxycytosine, 5-hydroxymethylcytosine, N4-alkylcytosine, and 4-thiouracil.
46. (Previously presented) The immunostimulatory oligonucleotide compound of claim 43, wherein the non-natural pyrimidine nucleoside of formula (*I*) comprises a non-naturally occurring sugar moiety.
47. (Previously presented) The immunostimulatory oligonucleotide compound of claim 46, wherein the non-naturally occurring sugar moiety is arabinose.
48. (Previously presented) The immunostimulatory oligonucleotide compound of claim 42, wherein the non-natural pyrimidine nucleoside includes a non-naturally occurring pyrimidine base.
49. (Currently amended) The immunostimulatory oligonucleotide compound of claim ~~48~~, wherein the non-naturally occurring pyrimidine base is selected from the group consisting of 5-hydroxycytosine, 5-hydroxymethylcytosine, N4-alkylcytosine, and 4-thiouracil.
50. (Previously presented) The immunostimulatory oligonucleotide compound of claim 42, wherein the non-natural pyrimidine nucleoside of formula (*I*) comprises a non-naturally occurring sugar moiety.

51. (Previously presented) The immunostimulatory oligonucleotide compound of claim 50, wherein the non-naturally occurring sugar moiety is arabinose.